

Notice of Allowability

Application No.

10/614,000

Examiner

Bryce P. Bonzo

Applicant(s)

YAMAZAKI ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the application as filed.
2. ☒ The allowed claim(s) is/are 1-11.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Bryce P. Bonzo
BRYCE P. BONZO
PRIMARY EXAMINER

Reasons for Allowance

The following is an examiner's statement of reasons for allowance.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance." The matter which when viewed in light of the remainder of the claim over comes the prior art, is italicized below. Applicant is reminded any modifications to the claims now that prosecution has closed may jeopardize this indication of allowable matter.

As per claims 1-5:

A lock-step synchronism fault-tolerant computer system including a plurality of computing modules having a processor and a memory in which each computing module processes the same instruction string in synchronization with each other, wherein:

when detecting disagreement in a state of access to an external bus among respective said processors in each said computing module, *if no fault is detected* in the system including each said computing module, synchronization among each said computing module is recovered by *adjusting timing of a response to an access which each said processor executes as a synchronization control instruction by an interruption.*

As per claim 6-8:

A re-synchronization method in a lock-step synchronism fault-tolerant computer system including a plurality of computing modules having a processor and a memory in which each computing module processes the same instruction string in synchronization with each other, comprising the steps of:

when detecting disagreement in a state of access to an external bus among respective said processors in each said computing module, *if no fault is detected* in the system including each said computing module, generating an interruption to all of said processors, and

causing each said processor to *execute a synchronization control instruction to adjust timing of a response to an access from each processor*, thereby causing each computing module to resume operation in synchronization.

As per claim 9-11:

A re-synchronization program for executing resynchronization processing of a lock-step synchronism fault-tolerant computer system including a plurality of computing modules having a processor and a memory in which each computing module processes the same instruction string in synchronization with each other, comprising the functions of:

when detecting *disagreement in a state of access* to an external bus among respective said processors in each said computing module, *if no fault is detected* in the system including each said computing module, generating an interruption to all of said processors, and

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causing each said processor to execute a clock synchronization control instruction *to adjust timing of a response to an access from each processor*, thereby causing each computing module to resume operation in synchronization.